BCA--SEMESTER-5TH

Course No.: BCA-501 <u>TITLE:</u> SOFTWARE SYSTEM DESIGN

No. of Credits = 4

Total Marks = 100
Semester Exam. = 80
Int. Assessment   = 20

UNIT - I

Software Systems Analysis and Design Life Cycle: Requirements determination, requirements specifications, feasibility analysis, final specifications, hardware and software study, Software system design, Software system implementation, Software system evaluation, Software system modification. Role of Software systems analyst, tools used in Software system analysis

Information gathering: strategies, methods, case study

Software system requirements specification: classification of requirements as strategic, tactical, operational and statutory.

10 HOURS

UNIT - II

Feasibility analysis: deciding project goals, examining alternative solutions, cost – benefit analysis

Tools for systems analysts: data flow diagrams, case study for use of DFD, leveling of DFDs, leveling rules, logical and physical DFDs, software tools to create DFDs

UNIT - III

Structured Software systems analysis and design: procedure specifications in structured English, examples and cases, decision tables for complex logical specifications, specification oriented design vs procedure oriented .

Data oriented Software systems design: entity relationship model, E-R diagrams, relationships, cardinality and participation, data base design.

UNIT - IV

Data input methods: coding techniques, requirements of coding schemes, error detection of codes, validating input data, input data controls, interactive data input

Designing outputs: output devices, designing output reports, screen design, graphical user interfaces, interactive I/O on terminals.

Suggested Readings:

1. Software Engineering by Roger S. Pressman- Tata McGraw Hill.
2. Software Project Management by Bob Hughes and Mike Cotterell- Tata McGraw Hill.
3. Software Project Management by S. Kelkar- PHI.
4. Information Technology Project Management by Kathey and Schwalbe- Thomson Learning
5. An Integrated Approach to Software Engineering by P. Jalote- PHI.

Course No.: BCA-502   <u>**TITLE:**</u> **VB.NET**

No. of Credits = 4   Total Marks = 100
                                                          Semester Exam. = 80
                                                          Int. Assessment   = 20

<u>UNIT–I</u>
Introduction To .NET, .NET Framework Features & Architecture. Introduction To Visual Studio, The VB.NET Language - Data Types, Variables, Forcing Variables Declarations, Scope & Lifetime Of A Variable, Type Conversion, Constants, Operators And Expressions, Choose And Switch Functions, Conditional Statements, Loop Statements.

                                                                          10 HOURS

<u>UNIT–II</u>
Arrays, Types of Array, Structures, Unstructured Error Handling, Structured Error Handling, Collections and its types, Procedures: Subroutines and Functions, Passing Arguments, Optional Argument, Structures, Concepts Of Classes & Objects, Access Modifiers, Constructors And Destructors, Garbage collection, Regex Class, Inheritance, Overloading & Overriding, Threading.

                                                                          0 HOURS

<u>UNIT – III</u>
Interfaces, Polymorphism, Message Box, Input Box Working With Forms: Loading, Showing And Hiding Forms, Multiple Document Interface, Method, Properties, Events And Working Of Basic Controls Designing Menus: Context Menu, Access & Shortcut Keys, -Textbox, Label, Link Label, Button, List Box, Combo Box, Checkbox, Picture Box, Radio Button, Panel, Scroll Bar, Timer, List View, Tree View. Openfiledialog, Savefiledialog, Fontdialog, Colordialog, Printdialog.

                                                                          10 HOURS

<u>UNIT–IV</u>
File Handlings: Opening And Closing Files, Reading And Writing Into Files. Overview Of Ado.Net, Connection Object, Command Object, Data Adapter, Dataset, Data Reader, Connection To Database With Server Explorer, Data Binding, Data Form Wizard, Data Validation, Data Grid, Data List View.

                                                                          10 HOURS

<u>Suggested Readings:</u>

1. VB.NET Programming Black Book By Steven Holzner –Dreamtech Publications.
2. Mastering VB.NET By Evangelos Petroutsos- BPB Publications
3. Peter Aitken's Visual Basic.NET Programming By Peter Aitken- Dreamtech Publications.
4. Holzner-"Visual Basic Programing", Dreamtech Press
5. Designing VB.NET Application - A Developer's Indispensable Guide To VB.NET By David Vitter- Dreamtech Press.